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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Satoshi Tamano

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COOPER & DUNHAM, LLP
30 Rockefeller Plaza
20th Floor
NEW YORK, NY 10112

EXAMINER

BOR, HELENE CATHERINE

ART UNIT

PAPER NUMBER

3768

MAIL DATE

DELIVERY MODE

12/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,086	Applicant(s) TAMANO ET AL.	
	Examiner HELENE BOR	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-10,12,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-10,12,15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 08/22/2008 has been entered.

Specification

2. The disclosure is objected to because of the following informalities:
- a. Page 10 Para 0017 Line 11-13 – unclear sentence structure “...is a body cavity use ultrasound probe formed of a handle portion...”
 - b. Page 15 Para 0023 Line 5-7 – the Specification stated that the upper most element of the array was “255”. The Examiner questions whether that is correct or whether as the drawings indicate that the upper most element is 256.
 - c. Page 21 Para 0034 Line 1 & Page 22 Para 0034 & 0035 – the word “gaster” is typically used in the zoology arts, not the human medical arts. As Merriam-Webster states: “gaster: the enlarged part of the abdomen behind the pedicel in hymenopterous insects (as ants)”. The Examiner believes a more art appropriate term should be used. Appropriate correction is required.

Claim Objections

3. Claim 1 & 2 are objected to because of the following informalities: Page 10 Para 0017 Line 11-17 & Page 12 Para 0020 6-12 – "...the Specification appears to only provide support for the "probe connector unit 103 at the handle side of the ultrasonic probe...". The Specification fails to disclose the connection change over switch as inside the handle section but rather outside it. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claim 1-2, 4, 6-10, 12 & 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim language is very difficult to follow and the elements of the subject matter are easily confused. With the current sentence structure at the end of Claim 1 & 2, it is unclear what claimed subject matter[s] "are set changeable": the number of ultrasonic wave transmission and reception channels? or the number of intervals and delay times? Due to the discrepancy regarding the interpretation of Claim 1 & 2, one can interpret Claim 4 to be in conflict with Claim 2 with regards to what subject matter is set changeable or unchangeable. For Claim 16, it is unclear whether the channels are shifted by one or the delay times. For the purpose of examination the Examiner reads the claim to mean the channels are shifted by one. For Claim 1, the Examiner is unclear on what "intervals" refers to time

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intervals or a range of elements. In reading the Specification, "interval" appears to mean a range of a number of elements. However in the Remarks and the Claims, "interval" appears to mean periods of time. The Examiner suggests amending the claim language to clarify the terms and avoid the confusion.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Examiner was unable to find support for the subject matter regarding number of vibrator elements in said plurality of vibrator elements divided by the first predetermined number equals the second predetermined number. The Specification and the Drawings appear to lack support for the subject matter.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 1-2, 4, 6-10, 12 & 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gondo (US Patent No. 5,349,960).

Claim 1-2, 7-10, 12 & 16: Gondo teaches the use of an ultrasonic diagnosing apparatus for measuring blood flow within a living body and displaying the blood

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stream in superposition on an ultrasonic image (Col. 1, Line 7-12). Gondo teaches a plurality of vibrator elements are disposed in an array at the tip of the insert section around entire 360 degree outer circumference (Col. 9, Line 67 – Col. 10, Line 2). Gondo teaches a connection change over switch (Figure 9, Element 4) which changes over electrical connection of first predetermine number of vibrator elements among the plurality of vibrator elements to be connected with the first predetermined number of ultrasonic wave transmission and reception channels (Figure 11, Element 2-i & Col. 10, Line 34-62). Gondo teaches that the change over switch is disposed within the probe section (Figure 9, Element 1 & 4). Gondo teaches the vibrator elements assigned a consecutive ID number (Figure 9, Element 2-N, 2-1, 2-2). Gondo teaches the time delays/intervals are set changeable (Col. 11, Line 19-24). Gondo teaches the tomogram, blood flow image computing circuits and image selection (Col. 11, Line 48-59, Col. 9, Line 31-36 & Figure 9, Element 46 & 47). Gondo teaches delay times distributed in a symmetric manner with reference to the center (Col. 6, Line 49-60, Col. 10, Line 63 – Col. 11, Line 2 & Figure 7A, Element 28a). Gondo teaches successive scanning of the elements from 2-1 to 2-N (Col. 10, Line 34-63 & Col. 11, Line 7-16). Gondo does not teach the specific scanning as claimed however, the device of Gondo is capable of performing the scan as it contains all the structural elements to do so (Figure 9, Element 1, 4 & 16 & Col. 10, Line 34-63).

Claim 4: Gondo teaches wherein the delay time of the ultrasonic wave signals are set unchanged [constant speed] (Col. 12, 15-19)

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Claim 6: Gondo teaches ultrasonic diagnostic apparatus that covers about 90 degrees [60 degrees] over the circumferential face at the tip of the insert section (Figure 10A & Col. 11, Line 5-7)

Claim 15: Gondo doesn't teach the second predetermined number equaling the number of vibrator divided by the first predetermined number. However, the Examiner contends the device of Gondo is capable of being carried out the claimed subject matter (Col. 9, Line 37-55).

Response to Arguments

10. Applicant's arguments with respect to claim 1-2, 4, 6-10, 12 & 15-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE BOR whose telephone number is (571)272-2947. The examiner can normally be reached on M-T 8:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. B./
Examiner, Art Unit 3768

/Eric F Winakur/
Primary Examiner, Art Unit 3768